

WHAT IS CLAIMED IS:

1. An ink-jet recording apparatus comprising:
a carriage for serially moving a recording head for
ejecting ink drops;
position detecting means for detecting the position of
the carriage in the serial direction;
changing means for adjusting the width of a gap between
the recording head and a back surface of a recording medium
located at a position opposing the recording head; and
recognizing means for recognizing a state of the
changing means based on information from the position
detecting means.
2. An apparatus according to Claim 1, further
comprising a platen, wherein a part of the platen for
supporting the back surface of a recording medium is located
at the back surface of a recording medium.
3. An apparatus according to Claim 1, wherein the
position detecting means is a linear sensor which can detect
the position of the carriage over the range of the serial
movement of the carriage.
4. An apparatus according to Claim 1, further

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comprising control means for changing ink-drop-ejection timing on the basis of a state of the changing means.

5. An apparatus according to Claim 1, wherein the range of the serial movement of the carriage is changed in accordance with the displacement of the changing means which is accompanied by operation of the changing means.

6. An apparatus according to Claim 1, further comprising a sliding member for slidably supporting the carriage during the serial movement of the carriage, wherein the width of the gap between the recording head and a back surface of a recording medium is adjusted by displacement of the sliding member.

7. An apparatus according to Claim 5, wherein the range of the serial movement is provided with a fiducial position for use as the positional reference of the carriage, and a movable end of the carriage is displaced in the side opposite to the fiducial position by operating the changing means.

8. An apparatus according to Claim 5, wherein the range of the serial movement is provided with a fiducial position for use as the positional reference of the carriage,

and a movable end of the carriage is displaced in the same side as the fiducial position by operating the changing means.

9. An apparatus according to Claim 5, wherein the changing means comprises a cover member being opened in order to operate the changing means and a sensor for detecting the opening of the cover member, and wherein changes in the range of the serial movement of the carriage are detected by the position detecting means when the cover member is closed.

10. An apparatus according to Claim 5, further comprising an electrical power supply for driving the recording apparatus, wherein changes in the range of the serial movement of the carriage are detected by the position detecting means when the electrical power supply is turned on.

11. An apparatus according to Claim 5, further comprising a restricting member for restricting the range of the serial movement of the carriage, wherein the restriction of the carriage by the restricting member is effective only when changes in the range of the serial movement of the carriage are detected by the position detecting means.

12. An apparatus according to Claim 1, wherein the recording head comprises a heating unit for generating energy for ejecting ink drops.

13. A recording apparatus comprising:
a carriage for serially moving a recording head;
changing means for changing the movement of the carriage according to a recording state of the recording apparatus;
position detecting means for detecting a position of the carriage in the serial direction; and
recognizing means for recognizing a recording state of the recording apparatus by detecting a serially movable range of the carriage from the position of the carriage detected by the position detecting means.

14. An apparatus according to Claim 13, wherein the recording state is an adjustable gap width between the recording head and the back surface of a recording medium.

15. An apparatus according to Claim 13, further comprising a platen, wherein a part of the platen for supporting the back surface of a recording medium is positioned on the back surface of the recording medium.

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16. An apparatus according to Claim 13, wherein the position detecting means comprises a liner sensor capable of detecting the position of the carriage over the entire serially movable range of the carriage.

17. An apparatus according to Claim 13, further comprising control means for changing ink-drop-ejection timing on the basis of the recording state.

18. An apparatus according to Claim 13, wherein the changing means comprises a member making displacement according to changes in the recording state, and the serially movable range is changed by the member.

19. An apparatus according to Claim 18, further comprising an electrical power supply for driving the recording apparatus, wherein changes in the serially movable range are detected by the position detecting means when the electrical power supply is turned on.

20. An apparatus according to Claim 18, further comprising a restricting member for restricting the serially movable range, wherein the restriction of the carriage by the restricting member is effective only when changes in the

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serially movable range are detected by the position detecting means.

21. An apparatus according to Claim 13, wherein the recording head comprises an ink-jet recording head for ejecting ink drops.

22. An apparatus according to Claim 13, wherein the recording head comprises an ink-jet recording head comprising a heating element for generating energy for ejecting ink drops.

23. A method for recognizing the existence of a gap between a recording head and the back surface of a recording medium opposing a recording head of an ink-jet recording apparatus comprising a carriage for serially moving the recording head for ejecting ink drops, the method comprising the steps of:

making the width of the gap correspond to a predetermined position in the range of serial movement of the carriage; and

recognizing the existence of the gap by detecting that the carriage is positioned at the predetermined position.

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